

Darren L. Jackson

Professional Experience

2004 – 2004 Environmental Technology Laboratory Boulder, CO
CIRES: Senior Associate Scientist

1999 – 2004 Environmental Technology Laboratory Boulder, CO
CIRES: Associate Scientist III

- Developed code to limb correct, cloud-clear, retrieve cloud parameters using 23 years of TOVS/ATOVS 1b data.
- Developed upper tropospheric humidity (UTH) retrieval, processed 20 years of UTH data, and analyzed UTH trends and variability.
- Developed multi-instrument retrieval of near-surface temperature and specific humidity using satellite microwave observations.
- Developed optimal interpolation method for blending SST observations derived from infrared and microwave satellite instruments.
- Managed the acquisition, processing and archival of satellite data for the Satellite Remote Sensing group at ETL.

1994 – 1999 Climate Diagnostic Center Boulder, CO
CIRES: Professional Research Assistant

- Processed and analyzed the NESDIS Operational sounding clear column radiance data.
- Performed intercomparison of upper tropospheric water vapor data derived from TOVS, SSM/I, SAGE, and radiosonde data and compared these observed data to climate model simulations.

1989 – 1994 Colorado State University Fort Collins, CO
Graduate Research Assistant

- Analyzed temporal and spatial variability of four years of precipitable water derived from the SSM/I.
- Conducted comparison study of precipitable water measurements derived from radiosonde and satellite observations.

1986 – 1989 Iowa State University Ames, IA
Undergraduate Research Assistant

- Assisted in the research of retrieving ozone concentrations using satellite observations.

Technical Skills

- Expertise using UNIX, Linux and Microsoft Operating Systems.
- Extensive experience with FORTRAN 77, FORTRAN 90, IDL, C shell, Perl languages.

Technical Skills (cont.)	<ul style="list-style-type: none"> • Proficiency in using Microsoft Office such as Word, Excel and PowerPoint and Adobe Illustrator. • Experience writing journal articles and presentations for conferences.
Education	<p><u>1989 – 1992 Colorado State University Fort Collins, CO</u> Atmospheric Science</p> <ul style="list-style-type: none"> ▪ Master of Science, Fall 1992, GPA: 3.9/4.0 <p><u>1985 – 1989 Iowa State University Ames, IA</u> Meteorology</p> <ul style="list-style-type: none"> ▪ Bachelor of Science, Spring 1989, GPA: 3.7/4.0 ▪ Graduated with Distinction and Honors
Professional Memberships	<ul style="list-style-type: none"> • Member of American Meteorological Society (1986-2004) • Member of American Geophysical Union (2000-2004)
Community Service	<ul style="list-style-type: none"> • Volunteer for Peak to Peak Charter School, Cub Scout Assistant Den leader for Pack 63, Volunteer for Centaurus Little League.
Publications	<p>Jackson, D.L. and J.J. Bates 2001: Upper tropospheric humidity algorithm assessment. <i>J. Geophys. Res.</i>, 106, 32259-32270.</p> <p>Bates, J.J., D.L. Jackson, and Z. Bergen, 2001: Variability of the upper tropospheric humidity. <i>J. Geophys. Res.</i>, 106, 32271-32282.</p> <p>Bates, J.J., and D.L. Jackson 2001: Trends in upper tropospheric humidity. <i>Geophys. Res. Let.</i>, 28, 1695-1698.</p> <p>Garand, L. and Co-Authors, 2001: Radiance and Jacobian intercomparison of radiative transfer models applied to HIRS and AMSU channels. <i>J. Geophys. Res.</i>, 106, 24017-24031.</p> <p>Bréon, F.-M., D.L. Jackson, and J.J. Bates, 2000: Calibration of the Meteosat water vapor channel using coincident NOAA/HIRS-12 measurements. <i>J. Geophys. Res.</i>, 105, 11,925-11,933.</p> <p>Soden, B., and Co-Authors, 2000: An intercomparison of radiation codes for retrieving upper tropospheric humidity in the 6.3-micron band: A report from the 1st GVAP workshop. <i>Bull. Amer. Meteor. Soc.</i>, 81, 797-808.</p> <p>Bréon, F.-M., D.L. Jackson, and J.J. Bates, 1999: Evidence of atmospheric contamination on the measurement of the spectral response of GMS-5 water vapor channel. <i>J. Atmos. Oceanic Technol.</i>, 16, 1851-1853.</p> <p>Berg, W., J.J. Bates, and D.L. Jackson, 1999: Analysis of upper-tropospheric water vapor brightness temperatures from SSM/T2, HIRS, and GMS-5 VISSR. <i>J. Appl. Meteor.</i>, 38, 580-595.</p> <p>Bates, J.J., and D.L. Jackson, 1997: A comparison of water vapor</p>

observations with AMIP-I simulations. *J. Geophys. Res.*, **102**, 21,837-21,852.

Bates, J.J., X. Wu, and D.L. Jackson, 1996: Interannual variability of upper tropospheric water vapor band brightness temperature. *J. Climate*, **9**, 427-438.

Stephens, G.L., D.L. Jackson, and I. Wittmeyer, 1996: Global observations of upper-tropospheric water vapor derived from TOVS radiance data. *J. Climate*, **9**, 305-326.

Jackson, D.L., and G.L. Stephens, 1995: A study of SSM/I derived columnar water vapor over the global oceans. *J. Climate*, **8**, 2025-2038.

Stephens, G.L., D.L. Jackson, and J.J. Bates, 1994: A comparison of SSM/I and TOVS column water vapor data over the global oceans. *Meteorol. Atmos. Phys.*, **54**, 183-201.

Greenwald, T.J., G.L. Stephens, T.H. Vonder Haar, and D.L. Jackson, 1993: A physical retrieval of cloud liquid water over the global oceans using SSM/I observations. *J. Geophys. Res.*, **98**, 18, 471-18,488.

Tjemkes, S.A., G.L. Stephens, and D.L. Jackson, 1991: Spaceborne observation of columnar water vapor: SSMI observations and algorithm. *J. Geophys. Res.*, **96**, 10,941-10,954.

Conference Presentations

Wylie, D., D.L. Jackson, P. Menzel, and J.J. Bates, 2004: Trends in high clouds over the past 22 years. To be presented at *15th Symposium on Global Change and Climate Variations*, Seattle, Washington, January 11-15, 2004.

Smith, D., A. Gasiewski, D. Jackson, and G. Wick, 2003: Local spatial scales of tropical deep convection inferred from SSM/I precipitation data. *AGU 2003 Fall Meeting*, San Francisco, CA, December 8-12, 2003.

Wick, G.A., D.L. Jackson, and S.L. Castro, 2003: Production of an Enhanced Blended Infrared and Microwave Sea Surface Temperature Product. *2003 IEEE AP-S International Symposium on Antennas and Propagation and USNC/CNC/URSI North American Radio Science Meeting*, Columbus, Ohio, June 22-27, 2003.

Wick, G.A., D.L. Jackson, and S.L. Castro, 2003: Production of an enhanced blended infrared and microwave sea surface temperature product. *12th Conference on Satellite Meteorology and Oceanography*, Long Beach, California, February 10-13, 2003.

Jackson, D.L., J.J. Bates, and D. Wylie, 2003: The HIRS Pathfinder Radiance data set (1979-2001). *12th Conference on Satellite Meteorology and Oceanography*, Long Beach, California, February 10-13, 2003.

Wylie, D., D.L. Jackson and P. Menzel, 2003: Trends in high clouds over the last 20 years. *12th Conference on Satellite Meteorology and Oceanography*, Long Beach, California, February 10-13, 2003.

Prata, F., J.J. Bates, and D.L. Jackson, 2002: A new method for the retrieval of upper troposphere/lower stratosphere sulfur dioxide from global long-term TOVS measurements. *Twelvth*

- International TOVS study Conference*, Lorne, Victoria, Australia, February 26 - March 5, 2002.
- Jackson, D.L. and J.J. Bates, 2001: Climate analysis with the 21-yr HIRS Pathfinder radiance clear-sky data set. *11th Conference on Satellite Meteorology & Oceanography*, Madison, Wisconsin, October 15-18, 2001.
- Jackson, D.L., and J.J. Bates, 2000: The TOVS Radiance Pathfinder data set. *Eleventh International TOVS Study Conference*, Budapest, Hungary, September 20-26, 2000.
- Bates, J.J., and D.L. Jackson, 2000: Interannual variability and long-term trends in upper tropospheric humidity. *Eleventh International TOVS Study Conference*, Budapest, Hungary, September 20-26, 2000.
- Jackson, D.L., and J.J. Bates, 2000: A 20-yr TOVS Pathfinder data set for climate analysis. *Tenth Conference on Satellite Meteorology*, Long Beach, CA, January 10-14, 2000.
- Bates, J.J., Bergen Z., and D.L. Jackson, 2000: Upper tropospheric water vapor observations and modeling - a summary of recent progress. *Eleventh Conference on Global Change Studies*, Long Beach, CA, January 10-14, 2000.
- Bréon, F.-M., D.L. Jackson, and J.J. Bates, 2000: Calibration of the Meteosat water vapor channel using coincident NOAA/HIRS-12 measurements. *Tenth Conference on Satellite Meteorology*, Long Beach, CA, January 10-14, 2000.
- Jackson, D.L., and J.J. Bates, 1999: Climate analysis of the TOVS Pathfinder data set. *Tenth International TOVS Study Conference*, Boulder, CO, January 27 - February 2, 1999.
- Berg, W., J.J. Bates, D.L. Jackson, and M. Deeter, 1998: Analysis of upper tropospheric water vapor brightness temperatures from SSM/T2 and HIRS. *Proc. Ninth Conference on Satellite Meteorology*, Paris, France, May 25-29, 1998, Amer. Met. Soc.
- Bates, J.J., and D.L. Jackson, 1998: Water vapor feedback during an enhanced hydrologic cycle. *Proc. Ninth Symposium on Global Change Studies*, Phoenix, AZ, January 12-16, 1998, Amer. Met. Soc.
- Bates, J.J., Wesley Berg, D.L. Jackson, and Merritt N. Deeter, 1998: Intercalibration and optimal assimilation of satellite water vapor information. *Proc. Second Symposium on Integrated Observing Systems*, Phoenix, AZ, January 12-16, 1998, Amer. Met. Soc.
- Bates, J.J., and D.L. Jackson, 1997: Seasonal and interannual variability of upper tropospheric humidity and clear sky outgoing longwave radiation. *Proc. Ninth Conference on Atmospheric Radiation*, Long Beach, CA, February 2-7, 1997, Amer. Met. Soc.
- Bates, J.J., and D.L. Jackson, 1997: A comparison of satellite water vapor observations with model simulations. *Proc. Eighth Symposium on Global Change Studies*, Long Beach, CA, February 2-7, 1997, Amer. Met. Soc., presenting author.
- Bates, J.J., and D.L. Jackson, 1996: Opening windows to cool the greenhouse: Observational evidence of a tropical water vapor balance. *Second International Conference on the Global Energy and Water Cycle*, Washington, D.C., June 17-21, 1996.
- Bates, J.J., and D.L. Jackson, 1995: Rethinking the water vapor feedback. *AGU 1995 Fall Meeting*, San Francisco, CA December 14-18, 1995.
- Stephens, G.L., D.A. Randall, D.L. Jackson, T.J. Greenwald, and I.L. Wittmeyer, 1993: Pre-GEWEX studies of hydrology and climate.

Related
Publications

- Kennett E.J., and R. Toumi, 2003: Asymmetry and non-linearity in upper tropospheric humidity variability. *Geophys. Res. Lett.*, **30**, 2161, doi:10.1029/2003GL018238.
- Iacono, M.J., J.S. Delamere, E.J. Mlawer, and S.A. Clough, 2003: Evaluation of upper tropospheric water vapor in the NCAR Community Climate Model (CCM3) using modeled and observed HIRS radiances. *J. Geophys. Res.*, **108**, doi:10.1029/2002JD002539.
- Gutowski, W.J., E.A. Lindemulder, and K Jovaag, 1995: Temperature-dependent daily variability of precipitable water in special sensor microwave/imager observations. *J. Geophys. Res.*, **100**, 22,971-22,980.